

(19) World Intellectual Property
Organization
International Bureau



554029

(43) International Publication Date
4 November 2004 (04.11.2004)

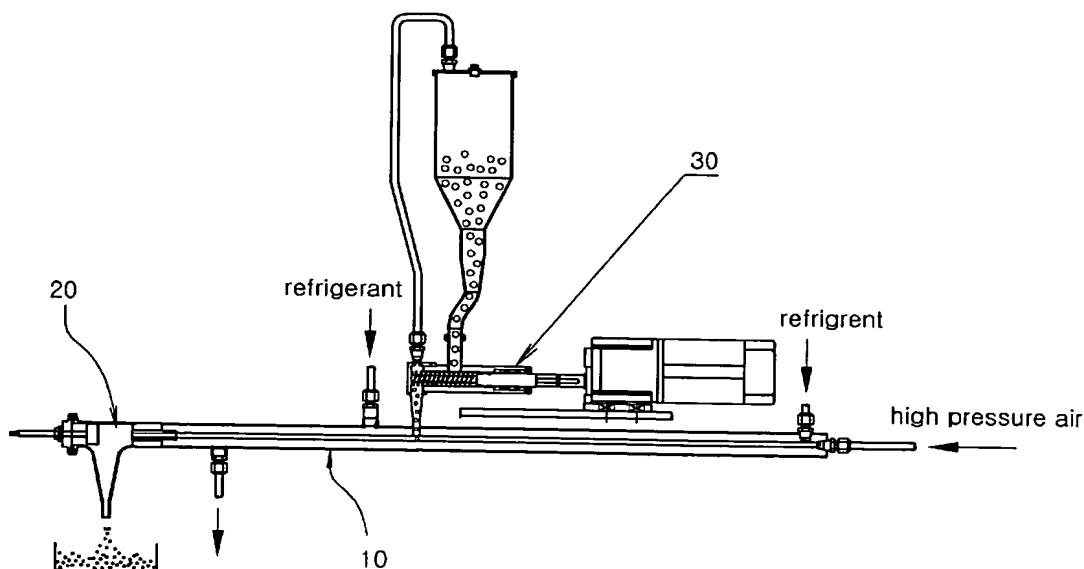
PCT

(10) International Publication Number
WO 2004/094064 A1

- (51) International Patent Classification⁷: **B02C 19/06**, 18/44, B29B 17/00
- (21) International Application Number: PCT/KR2004/000896
- (22) International Filing Date: 20 April 2004 (20.04.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10-2003-0025055 21 April 2003 (21.04.2003) KR
- (71) Applicant (for all designated States except US): SHIN SUNG IND. CO., LTD. [KR/KR]; 303-1, 3-ba, Sihwa Gongdan, Jeongwang-dong, Siheung City, Kyeongki-do 429-450 (KR).
- (72) Inventor: LEE, Kwang-Jae [KR/KR]; 116-2101, Hyundai Apartment, 481, Gaebong-dong, Guro-ku, Seoul 152-090 (KR).
- (74) Agent: AN, Kook-Chan; Hannuri Bldg., 219, Naeja-dong, Chongno-gu, Seoul 110-053 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: MULLER



(57) Abstract: A muller for finely mulling a material to be processed is disclosed. The muller comprises a nozzle unit (10) including feed lines (12a and 12b) and hollow pipe lines (120a and 120b), a mulling unit (20) including a mulling head (22), and an input device (30) including a hopper (310) and a feeder (322). The muller finely mulls the material even if it has a relatively large particle size, and continuously feeds the material while mulling it in order to improve productivity. The muller conducts cold mulling of the material or maintains the temperature thereof by employing a cooling system to prevent the generation of heat due to inter-material collision as the material is transferred, or friction against the feed lines, thereby extending the lifespan of the muller. The muller requires no separate classifier by employing successively arranged mulling units (20a to 20n) to accomplish a high economical efficiency.

WO 2004/094064 A1



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.